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INSTITUTIONAL RESEARCH BASES FOR ADMINISTRATIVE DECISION-MAKING, ANNUAL JUNIOR COLLEGE ADMINISTRATIVE TEAMS INSTITUTE, (5TH, UNIVERSITY OF FLORIDA, AUGUST 8-11,1965).

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IN ADDITION TO AN ANNOTATED LISTING OF RESEARCH PROJECTS UNDERTAKEN AS A RESULT OF THE INSTITUTE, TWO ADDRESSES ARE REPRODUCED. MAURICE L. LITTON REVIEWED THE BASIC STEPS OF PROBLEM SOLVING, DESCRIBED THE CHARACTERISTICS OF GOOD RESEARCH DESIGN, AND URGED THAT THE RESULTS OF STUDIES BE SHARED WITH OTHERS. IN STRESSING THE VALUE OF USING THE METHODS OF SCIENCE IN DETERMINING COURSES OF ACTION OR FIXING BELIEFS, HE CAUTIONED THE PARTICIPANTS TO USE CARE IN SELECTING PROBLEMS, STATING HYPOTHESES, SELECTING A DESIGN, GATHERING DATA, AND DRAWING CONCLUSIONS. W. HUGH STICKLER DEFINED INSTITUTIONAL RESEARCH AS RESEARCH WHICH IS DIRECTED TOWARD PROVIDING DATA USEFUL OR NECESSARY IN MAKING ADMINISTRATIVE DECISIONS OR SUCCESSFULLY MAINTAINING, OPERATING, OR IMPROVING AN INSTITUTION. HE OFFERED SEVEN PRINCIPLES FOR DEVELOPING A PROGRAM OF RESEARCH--(1) INSTITUTIONAL RESEARCH MUST BE PLANNED, (2) RESPONSIBILITY SHOULD BE CENTRALIZED, (3) THE PERSON IN CHARGE OF RESEARCH SHOULD REPORT TO A MAJOR INSTITUTIONAL OFFICER, (4) INSTITUTIONAL RESEARCH MUST BE ADEQUATELY FINANCED, (5) AN ADVISORY COMMITTEE FROM THE ENTIRE INSTITUTION SHOULD ASSIST THE RESEARCH AGENCY, (6) FACULTY MEMBERS AND ADMINISTRATORS SHOULD PARTICIPATE IN THE PROGRAM, AND (7) THE HIGHEST LEVELS OF PROFESSIONAL ETHICS MUST BE MAINTAINED. (WO)

Institutional Research Bases for Administrative Decision-Making

INSTITUTIONAL RESEARCH

BASES FOR ADMINISTRATIVE DECISION-MAKING

REPORT OF THE OUTCOMES OF STUDIES AND RESEARCH ACTIVITIES

initiated at the

Fifth Annual Junior College Administrative Teams Institute

at the

University of Florida, Gainesville, Florida

August 8 - 11, 1965

Southeastern Regional

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Public Relations: Robert D. Troup, Daytona Beach Junior College
Dayton Roberts, Florida State Department of Education

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*Because this address was delivered from outline notes, its contents were not available for inclusion in this report.

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* * *

The following persons served as general consultants throughout the year:

Dr. Edwin L. Kurth	-	Data Processing
Dr. Willis A. LaVire	-	Instruction
Dr. Maurice L. Litton	-	Student Personnel
Dr. Dayton Roberts	-	Public Relations
Dr. Raymond E. Schultz	-	Curriculum
Dr. Robert R. Wiegman	-	Campus Development

STUDY DESIGNS

Maurice L. Litton
Department of Higher Education
Florida State University

You recall it was the philosopher Charles Peirce who suggested that there are four general ways of knowing or, as he put it, of fixing belief. First is the method of tenacity. Man holds firmly to the truth, truth he knows to be true because he has always held firmly to it. He feels that, if he only holds to his belief without wavering, it will be entirely satisfactory.

The second method is that of authority. It is superior, morally and mentally, to the method of tenacity and does in fact work wonderfully well at times. Peirce says, "For the mass of mankind, then, there is perhaps no better method than this. If it is their highest impulse to be intellectual slaves, then slaves they ought to remain."[1]

The a priori method is a third way of fixing belief. (Some refer to it as the method of intuition.) It rests its case for superiority on the assumption that the propositions accepted by the a priorist are self-evident, i.e., "agreeable to reason." Note the agreement called for is with reason--not experience. This method works fine as long as everyone else "reasons" as I do.

The fourth method is that of science. Of it, Peirce says:

> To satisfy our doubts. . .therefore, it is necessary that a method should be found by which our beliefs may be determined by nothing human, but by some external permanency--by something on which our thinking has no effect. . .The method must be such that the ultimate conclusion of every man shall be the same. Such is the method of science.[2]

My purpose then, tonight, indeed the purpose of the Institute, is to suggest that we use the method of science more frequently in fixing beliefs,

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[1] J. Buchler (ed.), Philosophical Writings of Peirce (New York: Dover, 1955), p. 14.

[2] Ibid., p. 18.

What then is this method "such that the ultimate conclusion of every man shall be the same?" The most familiar expression is the one of John Dewey as he outlines the basic steps for problem solving.

> Upon examination, each instance reveals, more or less clearly, five logically distinct steps: (1) a felt difficulty; (2) its location and definition; (3) suggestion of possible solution; (4) development by reasoning of the bearings of the suggestion; (5) further observation and experiment leading to its acceptance or rejection; that is, the conclusion of belief or disbelief.[3]

Let us now examine these steps in detail and forgive me for slightly changing the language; the ideas remain the same.

The first and second steps frequently fuse into one, identification of a problem. This may sound easy, but rarely or never will a problem spring out full blown. Dewey says, "There is a troubled, perplexed, trying situation, where the difficulty is, as it were, spread throughout the entire situation, infecting it as a whole."[4] The first task is to take the troubled, perplexed, trying situation and from it make a statement of the problem. This means simply that we will ask a question about the relation that exists between two or more variables. An example might be helpful. Does freshman orientation help freshman students to adjust to college life? The variables are "orientation" and "adjustment to college life"--whatever that means.

Dewey says the essence of critical thinking is suspended judgment; and the essence of this suspense is inquiring to determine the nature of the problem before proceeding to attenpts at its solution.[5] A good statement of the problem will satisfy the following criteria: (1) does it express a relation between two or more variables? (2) is the question stated clearly and unambiguously? and (3) is there an implication that the relation can be tested? Perhaps the third

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[3]John Dewey, How We Think (Boston: Heath, 1933), p. 72.

[4]Ibid., p. 108.

[5]Ibid., p. 74.

criterion needs a word of explanation. We are suggesting here that if the variables are not measurable, we have not found a suitable problem. There are many problems that fall into this category--we cannot measure "good," "beautiful," "best" and other similar attributes. We do not imply that these problems are not worthy of study; it is just that our method of inquiry is not suitable. The example we have given may not be a suitable problem depending upon our ability to measure "adjustments to college life."

After stating the problem, the next step is to cast about for possible solutions. We call first, of course, upon our own experience. Then through the printed word or through exchange of ideas at professional meetings we turn to the experience of our colleagues. We formulate some possible courses of action, make some obeservations of relevant data, and then state some hypotheses.

A hypothesis is a tentative statement about the relation between two or more observed phenomena or variables. It is usually a statement rather than a question and it should meet two of the criteria for the statement of a problem. This is, it should express a relation and imply a solution. Suggestion is the heart of inference; it involves going from what is present to something absent and in our suggestions (hypotheses) we should be both speculative and adventurous. The statement of the hypothesis is an important step. It forces us to the specificity that is needed if we are to find careful solutions to our problems. Hypotheses are working instruments. With them, we can divide and subdivide our problem, making it manageable. Then because hypotheses are specific, we can test them and show them to be probably true or probably false, regardless of man's opinion.

The next step is that of reasoning. We now consider the consequences of the hypotheses that we have formulated. This is a most important step and perhaps

Dewey's greatest contribution to the analysis of reflective thinking. It is here that experience, knowledge, and perspicuity all play an important role. Conjectures which seem plausible at first sight are often found unfit or even absurd when their full consequences are traced out. We may even find that we have arrived at a problem different from the one we started with or that we do not have the technical skills with which to solve the problem.

The next step, that of testing the relation is almost automatic if the first three steps have been carefully made. But let us be careful to remember that the essence of this step is the testing of the relation expressed by the hypothesis, not the testing of the variables as such. Success here will depend upon an adequate design, careful observation, and systematic reduction of error variance.

We turn our attention now to an adequate design. Design is "the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance."[6] Note there are two purposes: (1) obtain answers to research questions and (2) control variance. Obviously we want to obtain answers or we would not be engaged in the study, but we keep this purpose in our definition because it should always be foremost in our minds. By control of variance we mean: (1) know the extent to which we are manipulating the independent variable and the extent to which the dependent variables respond and (2) reduce error variance as much as possible.

Good designs are developed to enable us to answer research questions as validly, objectively, accurately, and economically as possible.

Let us look now at a good design.

$\overline{/R/}$	X	Y	Experimental
	(-X)	Y	Control

[6]Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, 1954), p. 275

The symbols are as follows: /R/ means that subjects have been assigned to the experimental and control groups at random. (The tremendous advantages of this cannot be over-emphasized.) The line separates the two groups. X represents the independent variable and implies that it was manipulated. (-X) is the same variable but was not manipulated. Y is the dependent variable for each of the two groups.

This design has been called the "classical" design. According to Kerlinger the advantages are:

(1) it has the best built-in theoretical control system of any other design, with one or two possible exceptions in special cases;

(2) it is flexible, being theoretically capable of extension to any number of groups with any number of variables;

(3) if extended to the multivariate case, it can test several hypotheses at one time; and

(4) it is statistically and probabilistically elegant.[7]

The virtues lie in the control group which gives the comparability required by science and in randomization which gives the experimenter the assurance that his groups are approximately (statistically) equal on any variable possibly related to the dependent variable or variables. Deviations from this design should be carefully calculated deviations.

This "classical" design is, of course, associated with the type of research that we call experimental which is characterized by direct control and manipulation of at least one independent variable. The other broad approach to research is the ex post facto approach. Here the investigator begins with observations of the dependent variable. He then studies the independent variables in retrospect for their possible relations to, and effects on, the dependent

[7] Ibid., p. 303.

variables. A large proportion of educational and sociological, and even psychological, research is of this nature. Then too this is probably the type of research that gets us into trouble most frequently. "Cigarette smoking causes cancer" and "attaining a college degree will cause life-time earnings to increase" are two of the best known fallacies of this type of research.

A classical design for ex post facto research is not available. As a guide I suggest the advice Kerlinger gives in concluding his discussion on this topic.

> Ignore the results of any ex post fact study that does not test hypotheses and be highly skeptical of any study that tests only one hypothesis. Researchers should predict significant relations and nonsignificant relations whenever possible.[8]

But let's not get too involved in this aspect. The important point is that design can help us to economically find valid, objective, and accurate answers to questions that bother us.

Up until now we have talked about how to solve problems. Whether our task is gathering data for more intelligent decision making, field checking a hypothesis discovered in the laboratory, or basic research, the steps outlined above should be followed as carefully as circumstances permit.

Now let us turn our attention to the question of WHAT. Is there a legitimate area of research that belongs to the junior college? My answer is YES--the entire range of problems that plague us. I wonder what would happen if we would apply the value engineering technique to education.

Value engineering goes something like this. A product is broken down into its pieces. Each piece is then subjected to the following questions: (1) What is this? (2) What does it do or what function does it serve? (3) Does it serve its function adequately? (4) Of what is it made? (5) What does it cost? (6) Can it be made from a less expensive material? (7) If the less expensive material is used, will it lessen the efficiency or will it decrease the aesthetic appeal?

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[8] Ibid., p. 373

I know we can't take our product, the student, and break him down into pieces, but could we not ask some of these same searching questions about each activity that we encourage or foster at our institutions?

The questions might be something like this: (1) What are we doing? (2) Which institutional objective is it helping us to reach? (3) What evidence do we have that this is so? (4) Can this same objective be achieved through another activity that is either less expensive or more effective? (5) Will the product be less appealing if we make the change? Questions of this type dir ɔted at each activity, classroom and extra-classroom, should provide us .h all the problems we need.

We have talked about HOW and WHAT. The WHEN is suggested and the WHY is well documented by President Stuart E. Marsee of El Camino College in his excellent article in the May issue of the Junior College Journal. The closing paragraph reads:

> Today enlightened educational leaders use the most advanced techniques available in arriving at the solution to problems. Institutional research is a must![9]

One final plea. When you complete a study, please share the results with your colleagues. Perhaps you feel that your study was of local interest only, or that your design was not sophisticated enough, or perhaps you are just too lazy to describe the study. Whatever your reason, I hope you will resolve to do something about it at this Institute. Indeed, this sharing is one of the objectives and if nothing else is accomplished, I, for one, will feel that the time has been well spent.

My message then is quite simple; it can be summed up in three statements:

(1) Use the method of science more frequently in determining courses of action or in fixing beliefs.

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[9] Stuart E. Marsee, "A President's View of Institutional Research," Junior College Journal (May, 1965), p. 25.

(2) Remember that CARE is the watchword in the use of the method of science:

a) CARE in the selection of the problems.

b) CARE in the statement of the problem and hypotheses.

c) CARE in the selection of a design.

d) CARE in the gathering of data and

e) CARE in the drawing of conclusions.

(3) Share the results of your research with your colleagues.

SOME SUGGESTIONS CONCERNING INSTITUTIONAL RESEARCH*

W. Hugh Stickler
Department of Higher Education
Florida State University

During the first two or three hundred years of higher education in America, colleges and universities did very little in the way of studying their own operations and problems. In general, institutions were small and operations were relatively simple. As one university president--well known in junior college circles, and particularly well known to this audience--once put it to me, "In those days institutions of higher learning could fly by the seats of their pants."

But the days of simple operations in institutions of higher education are over. Enrollments are skyrocketing, costs are mounting by leaps and bounds, programs are expanding, junior colleges are seeking to understand and to identify more completely with the communities in which they operate, curriculums are proliferating, research is waxing, competent faculty members are in low supply and high demand, and operational problems have increased both in number and in complexity. New looks at objectives must be taken, new policies must be formulated, new plans must be developed, new administrative procedures must be employed, new teaching techniques must come into being, and new evaluative techniques and devices must be put

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*This address draws heavily upon two sources: (1) "The Expanding Role of Institutional Research in American Junior Colleges," by W. Hugh Stickler in the Junior College Journal, Vol. 31, No. 9 (May 1961) and (2) "The New Look in University Administration," by Daniel R. Davies and Daniel E. Griffiths in the Executive Action Letter, Vol. 4, No. 12 (July 1965). Individual quotations from these sources are generally not indicated.

into operation. I need not tell you people that operating an institution of higher learning today is an infinitely complicated job. In order to operate effectively our junior colleges, senior colleges, and universities need all the help they can get. At least a part of this help is forthcoming through self studies in the form of institutional research. In fact, some writers--Rourke and Brooks among others--speak of institutional research as being an integral part of the "managerial revolution" which has come to college and university administration within the past 10 or 15 years.[1]

What top administrators and governing board members want nowadays is the kind of analyzed and classified information they need for making policy and regulatory decisions on a sounder basis than hunch or pure intuition alone.

As discussed here, institutional research refers to research which is directed toward providing data useful or necessary in the making of intelligent administrative decisions and/or for the successful maintenance, operation, and/or improvement of a given institution of higher education. It includes the collection and analysis of data used in appraising the environment or "setting" in which the institution operates, in preparing the budget, in planning new buildings, in assigning space in existing buildings, in determining faculty loads, in admitting students, in individualizing instruction, in planning the educational program, and the like. It is

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[1]Francis E. Rourke and Glenn E. Brooks, "The Managerial Revolution in Higher Education," Administrative Science Quarterly, Vol. 9, No. 2 (September 1964), pp. 154-181.

needed to facilitate efficient operation, but it is also needed to promote qualitative improvements.

The activities and effectiveness of institutional research agencies vary appreciably in terms of several factors:

First, the interests and aptitudes of the man in charge set the direction of the research. As of this moment, it is possible for an able, strong person to leave a substantial imprint upon the office of institutional research.

Second, external pressures and emergencies, often having to do with demands from legislatures, supporting constituencies, or from the general public, can set the pattern of the research. In most cases, such current demands leave little time for the office to take "the long look" in helping presidents and governing boards plan ahead for the years to come.

Third, repetitive tasks of one sort or another take a lot of time--for example, space utilization studies, cost studies, assembling enrollment statistics, distributions of faculty loads, and analyses of student grades. Such data are valuable in setting trend lines over years, but the agency staffing should be ample enough to permit other kinds of studies as well.

Fourth "senatorial courtesy" keeps some institutional research agencies out of certain areas of possible research, such as the evaluation of teaching and other aspects of the educational process which traditionally have been the province of the faculty.

Fifth and last among these examples of influencing factors is the problem of how to organize and administer institutional research. Probing questions threaten comfortable old ways, increase feelings of insecurity

administrators and faculty alike, and reveal "skeletons in the closet" to critical outsiders. Continuing self-examination is not easy to take! Diplomacy and professional integrity of the highest order are required to achieve good research results in the face of these difficulties. But it can be done! I shall have more to say on this point later in this presentation.

Institutional research may be either basic or applied. In practice it is usually applied; it deals primarily with the on-going operational problems of the institution. As A. J. Brumbaugh describes it, it is "research designed to improve institutions of higher learning."[2]

The idea of institutional research is not new although the designation has not always been thus. Here and there a dean, business manager, registrar, or other officer has for years been making regular and/or occasional institutional studies. At the institutional level Stephens College--a junior college, please note--has had an organized institutional research service for 45 years. The University of Minnesota and the University of Illinois, among others, have operated organized self-study programs for several decades. As a national movement, however, institutional research has developed rapidly only since the end of World War II and especially during the past 10 or 15 years. Only within the past decade or so has the term "institutional research" gained consistent and wide currency.

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[2]A. J. Brumbaugh, Research Designed to Improve Institutions of Higher Learning. Washington, D. C.: American Council on Education, 1960.

That there is growing interest in institutional research among the junior colleges, senior colleges, and universities of this country is indicated by a number of evidences. I shall mention only four. First, a number of conferences and institutes -- perhaps a dozen -- such as this one have now been held and have been well patronized. Among others three institutes on institutional research sponsored the Southern Regional Education Board -- held at the Florida State University, the University of Texas, and the University of Kentucky in that chronological order -- enrolled far more persons than were originally anticipated. Second, there is now a National Forum on Institutional Research. Although it began as an informal gathering of a dozen or a score of persons it has now grown to a group of several hundred institutional research workers. The forum is still fairly loosely structured but it meets annually and its programs reflect increasing significance and quality. Third, both the American Council on Education and the U. S. Office of Education have established offices to facilitate institutional research work throughout the country. The Council through its Office of Research (formerly the Office of Statistical Information and Research) provides an excellent reporting service on institutional work currently under way and maintains an invaluable Fact Book on Higher Education in America which it keeps current through a loose-leaf information service. Through a unit which it calls the Clearinghouse of Studies on Higher Education the U. S. Office of Education records and distributes information about completed research projects by means of a publication called The Reporter. It also digests these researches and reports them in monograph form in its excellent series entitled New Dimensions in Higher Education.

The fourth evidence of growing interest in institutional research is revealed in the rapidly expanding literature in the field. This is neither the time or the place to discuss this literature at length, but in addition to the publications just noted I should like to mention two others which I believe have relevance for this particular audience. One of these is entitled Research Designed to Improve Institutions of Higher Learning and the author is A. J. Brumbaugh. Single copies of this monograph are available from the American Council on Education without cost. The other document is entitled Institutional Research in the Junior College. It grew out of a junior college conference on institutional research at UCLA very much like this one. This publication is Occasional Report No. 3 from the Junior College Leadership Program and it is available from the UCLA Students' Store at $1.50 per copy.

The volume of institutional research undertaken by a given institution varies from none to very substantial amounts. The character of the research runs the entire gamut of educational problems. Through the years the Office of Institutional Research and Service at the Florida State University has provided -- as time and resources have permitted -- services to the President's office, the Board of Regents, the office of the Vice President for Academic Affairs, the Council of Academic Deans, the faculty, graduate students, state agencies, the public schools of the state, and other institutions of higher education. In this institution studies made over the years fall into such categories as (a) administrative problems and procedures, (b) budget and factors related to budgets, (c) class size analyses, (d) operational costs and factors related to costs, (e) curriculum, (f) degrees awarded, (g) enrollment analyses and projections, (h) grading practices, (i) instructional staff,

(j) faculty salaries, (k) space inventories and space utilization, (l) student ability studies, (m) student characteristics and backgrounds, (n) student costs, (o) student progress, (p) faculty loads, (q) time utilization, (r) studies of transfer students and (s) "miscellaneous studies" -- i.e. studies which do not seem to fall into any of these categories. It may be added, too, that the institutional research agency in this institution always has had a long backlog of work waiting to be done. The Florida State University may or may not be representative. Reference is made to it here to illustrate that the variety of problems falling within the scope of institutional research is almost endless. It is, of course, entirely appropriate and desirable that each institution should determine and attack its own problems to serve its own purposes.

It seems to me that if I were a junior college administrator I would want especially to have at hand as "working tools" the results of far-reaching institutional research. Not only would I want research findings in most or all of the areas listed above; I would also want to learn much about my community, to know local training and job opportunities, to find avenues for legitimate educational services for adults, to understand the origins and backgrounds of our particular students, to develop meaningful programs in general education, to follow the progress of our students, to know what happens to our students -- particularly those who transfer to senior institutions -- after they leave our junior college. It seems to me I could easily think of a thousand and one things I would want to have done in the area of institutional research. I do believe that without half trying I could keep an institutional research agency in my junior college busy for a hundred years!

It is important that we not get the idea that institutional research is desirable only in senior institutions and especially in big universities. I am trying to say that institutional research findings are fully as effective in junior colleges as in senior institutions and that size has little or nothing to do with it. When I left Stephens College in the late 1940's I was informed by the late W. W. Charters, then director of the research service, that somewhere between 800 and 1,000 pieces of institutional research had been conpleted at that time. By now the number of completed research projects would probably be twice that figure. Stephens College simply could not be what it is today without its institutional research program.

Institutional research reports run the full gamut of sophistication. Some are so informal that they are reported orally, usually to the president or some other administrative officer. The ultimate in simplicity of reporting probably came from a director of institutional research in a state university who said, "I worked on the problem for three months and the answer was 'NO!' It was as simple as that." Some institutions have never published an institutional research report, nor do they intend to do so. Rather they think of institutional research as being for their particular college of university and not for public consumption.

The typical institutional research agency, however, uses a variety of forms of reporting. In some cases the report is informal, possibly even made orally. In other cases the report is simple -- a table, a graph, a chart, a page or two of information. Most often, the report is made in typed or duplicated-copy form and distributed to those people within the institution to whom the new information is likely to prove most useful. In still other cases -- usually

few in number -- the findings prove to be of such value that they merit sharing with the profession. These reports are then published -- in full or in summary form. The publication outlet may be a book, a monograph, a "house organ" type of publication, or an article in a professional journal. I am of the opinion that institutional research findings ought to be reproduced in at least "semi-permanent" form (e.g. mimeograph, multilith, or the like) and fairly widely distributed, particularly within the institution being served. As long as I directed the research service at the Florida State University, our office put out within the University every year or two a little, inexpensive publication entitled Services and Materials Available From the Office of Institutional Research and Service. Periodic internal distribution of some such document still seems to me to be a good idea.

But in any event, journal publication is not the important thing. Rather, publication is frequently incidental. Of the 800 - 1,000 studies completed at Stephens College by the late 1940's I do not suppose that more than 25 -- at most 50 -- were ever published. They were not designed with the end goal of professional publication in mind. They were, rather, (in Brumbaugh's terms) "research designed to improve an institution of higher learning." The late W. W. Charters described this kind of research as "educational engineering" -- research designed to be plowed right back into the educational program in order to improve the overall operation of the college. "Educational engineering" -- I have always liked that term!

Two studies, one by Hall T. Sprague[3] and the other by W. Hugh Stickler[4] reveal that, organizationally, different educational institutions provide for institutional research in different ways. Some schools do little or no institutional research and therefore have no formal organization concerned with it. Institutional research in some institutions is still decentralized. In these institutions officers (e.g. vice president, provost, administrative assistant, dean, business manager, internal auditor, registrar, and others), faculty and staff members, and/or committees participate in the self-study process. In a substantial and increasing number of colleges and universities, however, institutional research is performed, coordinated, and/or reviewed by institutional research agencies. In these instances each agency has a director (full-time or part-time) and a staff (usually small -- i.e. consisting of one to five or six persons in addition to the executive officer). Not infrequently institutional research agencies are assisted by institution-wide advisory committees. In general, these advisory committees serve highly useful functions in the overall operations of institutional research programs.

Without doubt, the current trend nationally is toward the centralization of institutional research functions. The advantages of such an organizational arrangement are substantial. It is the observation of this writer that those institutions which have identifiable and on-going institutional research agencies are turning out more and better institutional research information, both that which is "routine" and that which is particular, both that which is repetitive in nature and that which is discrete.

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[3]Hall T. Sprague, Institutional Research in the West (Boulder, Colorado: Western Interstate Commission for Higher Education, 1959).

[4]W. Hugh Stickler, Institutional Research Concerning Land-Grant Institutions and State Universities (Tallahassee, Florida: Florida State University, 1959).

No doubt you are interested in the question: "how much does it cost to operate an institutional research agency?" The answer is, "Not much!" I know one state university which, formerly at least, took some pride in the fact that it had no budget for institutional research. The director was paid, I believe, by the Department of Psychology -- possibly in part by the Office of the President -- and the rest of the money was forthcoming from the departments and campus agencies for whom services were performed. I cannot believe that is the best way to do it, but the scheme seemed to work reasonably well in that particular institution. Preferably a modest sum will be set aside specifically for the purposes of institutional research. It is difficult to estimate the annual cost for an institutional research program in a junior college. It will, of course, depend upon the size of the institution, the amount of research planned, and the degree of research sophistication expected. I should think, however, that a lot of good could be done in the average junior college with an annual budget of $10,000 to $30,000, and at that price I am of the opinion that the deal is a real bargain! In fact, I think an institutional research effort of this magnitude will pay for itself many times over through improved institutional operations. And if the conviction exists that institutional research is worthwhile, the money to support it is likely to be forthcoming.

In developing a program of institutional research a junior college, senior college, or university will do well to keep in mind several guiding principles. Among the more important of these principles are the following (and I list seven of them):

a. Institutional research must be planned. If this is "research designed to improve institutions of higher learning," then crucial issues must be

identified, priorities must be assigned, and research projects must be designed and conducted. These things do not just happen; all of these functions require careful and thorough planning.

b. Responsibility for the direction, coordination, and review of institutional research should be centralized. Brumbaugh notes that "the lack of central coordination is likely to result in wasteful duplication or costly oversight of needed studies."[5] Only in a recognized institutional research agency can a unified and comprehensive program of institutional research be developed and made to function effectively.

c. The executive officer of the institutional research agency should report to a major institutional officer, preferably the president. I make this recommendation knowing full well the unfortunate difficulties suggested earlier. If not handled with diplomacy and professional integrity, the constant probing which is a necessary ingredient in institutional research may tend to irritate colleagues and to develop feelings of insecurity at all levels in the academic hierarchy. Therefore, confidential matters must be kept confidential. Institutional research workers should know many things they do not talk about; and if they do talk too much they will ruin the entire institutional research operation and make themselves very unpopular in the process. All this leads me to perhaps my firmest suggestion or bit of advice: Do not pontificate! An institutional research person should be characterized by modesty and humility, not by verbosity nor bellicosity. It is his business to discover facts, not to determine what shall be done with the information he uncovers. That prerogative

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[5]Brumbaugh, op. cit., p. 34

belongs to others in the academic community -- chiefly the president and other administrators. Let them interpret the significance of the research findings, make the appropriate decisions, and initiate the appropriate action.

g. Institutional research must be adequately financed. Institutional research agencies are service agencies. Their effectiveness is to be judged in terms of the volume and quality of the services they provide. But remember: this is "research designed to improve institutions of higher education." (Brumbaugh). If institutional research agencies do their work well, adequate financial support is justified and should be forthcoming. What constitutes adequacy will, of course, be interpreted by each institution in terms of its own needs and its own program.

Now let me summarize and conclude. Today higher education is more complex and more concerned with excellence than ever before -- which frequently exist between faculty members and administrators. But the fact remains that many of the research projects will deal with major administrative problems and all or nearly all will have institution-wide significance. Some will be confidential in nature. High administrative placement will give the institutional research agency the status it must have in order to gain access to the multifarious raw data it will need in pursuing its research program.

d. An institution-wide advisory committee should assist the institutional research agency in carrying out its responsibilities. Such a committee can be helpful in identifying and screening problems, designing research projects, assigning priorities, and interpreting the work of the institutional research agency to the rest of the college or university and its constitutuency.

e. Provision should be made for wide participation by faculty members and administrative offices in planning and conducting institutional research projects. This principle should apply even though the major responsibility for institutional research is centralized. Institutional research offices are not agencies unto themseives. Widespread staff participation in institutional research familiarizes the individual with the problems of the college or university and prepares him to deal realistically and effectively with the research findings. May I say in passing that most of the institutional research performed at Stephens College through the years has been done by the faculty working in cooperation with the research service.

f. Activities of the institutional research agency must be carried out at the highest levels of professional ethics. This point was excellence in operations and excellence in programs. In order to develop and/or to maintain excellence, governing boards, administrators, and faculties must make important decisions concerning the institutions of higher education for which they are responsible. In dealing with many operational and educational problems institutional research can provide pertinent data upon which intelligent decisions can be made.

Junior colleges, senior colleges, and universities all over America are finding institutional research agencies to be helpful -- even indispensable -- in successfully maintaining and improving their operations and educational programs. Because of their proven usefulness in institutions which already have them, there is every reason to believe that more and more American institutions of higher education will establish and/or expand institutional research programs in the years which lie immediately ahead. I am confident that many junior colleges represented here tonight will be among that number.

REPORT ON THE STUDIES AND RESEARCH ACTIVITIES

Moses S. Koch, President
Essex Community College
Essex, Maryland

INTRODUCTION

"My purpose then, tonight, . . . is to suggest that we use the method of science more frequently in fixing our beliefs."

"I do believe that without half trying I could keep an institutional research agency in my junior college busy for a hundred years!"

These statements were made in the two keynote addresses at the 1965 University of Florida Conference on Institutional Research in the Junior College. The first statement was made by Maurice Litton, the second by W. Hugh Stickler. Together these sentences reflect the essence of the Conference. The studies and research activities which emanated from that Conference reflect the verity of both statements.

This paper is a report on those studies and activities.

For the purpose of initiating institutional research, administrative teams from thirty-eight junior (or community) colleges convened in a workshop training program at the Kellogg Center at the University of Florida in August 1965. By the conclusion of the workshop each team had developed the design for a subsequent research study or a related activity at the individual junior college. Each investigation was designed to evoke objective criteria for subsequent formulation of a particular institutional policy. The teams (i.e. the community colleges) agreed to undertake the studies or research activities during the 1965-66 academic year.

During the planning stage, these were classified into six areas of concern as follows, with the number of studies in each area shown:

Areas of Concern	Number of Studies & Research Activities Undertaken	Number of Studies Completed	Number of Research Activities Completed
Instruction	6	4	1
Curriculum	5	2	-
Student Personnel	10	5	1
Public Relations	4	3	1
Campus Development	7	-	3
Data Processing	6	-	4
Totals	38*	14	10

*Fourteen studies were still in progress at the time of this report

General Observations

Before summarizing each investigation certain general observations appear in order. The most significant outcome is this:

> Under the guidance of a university, twenty-three community colleges* (in seven states) systematically identified critical problems, examined them with coherent objectivity, and thus evolved policy decisions from research based findings.

The role of the Kellogg Center was to assist the colleges at all phases of the investigations, with a view to helping each institution become ultimately self-sufficient in its efforts to develop research as a basis for policy-making decisions. For example, the Kellogg staff was utilized not only in helping to plan the studies but they were also sought during the year for consultation as the investigations got under way and progressed. The Kellogg efforts continue in the evaluation of those studies and in the advancement of subsequent institutional research undertakings.

*One college undertook two investigations

Related to the use of the Kellogg Center's talents, is the fact that in many instances these were the first efforts of the particular college to organize basic data for policy decisions. Also for some of the colleges it was the initial use of consultants and specialists for assistance in undertaking research.

Another observable outcome of the total project is this: There is a broad range in the level of sophistication of these studies and research undertakings. Some would qualify in design and execution as doctoral level research. Others, though of obvious value and intelligent design, need to be refined in subsequent experiences. Noteworthy here is the fact that in these latter instances the colleges were astutely aware of their limitations.

The scope and content also ranged over a broad scale of concerns including such varied matters as the public image of the college, class size as a factor in learning, and optimum time for advising new students.

Finally there is the fact that most of the problems examined tend to be problems which many other community colleges share. This is not to imply that the outcomes of a study in a particular college would be applicable at another college, but two elements, in such common concerns could have a value to other colleges, namely:

> The design and method of the particular study may have applicability to other colleges considering an investigation of the particular area, and
>
> The outcomes of the particular study may provide "food for thought" for colleges which share the particular problem.

Description of the Studies

In three of the six areas of concern (Instruction, Curriculum, and Student Personnel) there is some natural overlapping of content. Four studies attempt to evaluate remedial courses (Georgia Southwestern College, Sacred Heart College, Daytona Beach Junior College, South Georgia College); and two examine class size as a factor in learning (Indian River Junior College, Pensacola Junior College). Others concern student ratings of faculty (St. Johns River Junior College), orientation of a new faculty (Jefferson State Junior College), an optimum time for academic advisement (Hinds Junior College) and a program for student center services (Gardner-Webb College), and predictors of academic success (North Florida Junior College).

Studies in the area of Public Relations concern salary structure (Gulf Coast Junior College), an alumni association (Southern Union State Junior College), and modifications of a public relations program (Walker College).

Investigations in the areas of Campus Development and Date Processing cover a wide range of concerns and are summarized in the latter part of this report under the title, "Related Research Activities Completed by Participating Colleges."

A small portion of each study has been underscored by the writer of this report in order to identify for the reader the main purpose of the study.

INSTRUCTION

Georgia Southwestern College, Americus, Georgia.

This study is an effort to critically examine -- rather than to formally evaluate -- a summer trial program designed to qualify for admission certain applicants not otherwise qualified. It is an effort to determine "how the participants viewed the program and. . .felt about it,. . . whether information about. . .the program was being successfully transmitted, and. . .weaknesses and shortcomings. . . noted. . .and suggestions for improvement. . ."

Using a questionnaire to guide each interview, both faculty and students were sought for information under well controlled conditions. Among the main results was some significant insight into these students' self-concepts, i. e. the study revealed "a strong tendency. . .to deny any plans save college attendance. Summer Trial. . .was not seen as an opportunity to learn anything about oneself. The message which emerges. . .is (that) there is no idea of student initiative or. . .responsibility; the student (expects) to be made to work, (with) no idea that the student and teacher are allied in some pursuit together, and. . .no expectation that the joint activity may be rewarding or enjoyable in itself."

These conclusions may appear rather sweeping but they are warranted from other results, being mindful that the population under scrutiny is a group of applicants originally not qualified for admission.

Directed by James R. Fisher and Lewis R. Lieberman.

Indian River Junior College, Fort Pierce, Florida

To determine the relevance of class size as a factor in learning writing a control and experimental group (totalling 300 students) were compared in a carefully designed experiment, indicating that it mattered not whether classes had 28 students or 56 students. The three teachers chosen to participate in the experiment were outstanding teachers, prompting thus the statement that "class size is not the critical variable in teaching effectiveness in higher education; that it is rather the quality of the teaching, and of the learning."

Directed by Harold H. Hopper, Dean of the College.

St. Johns River Junior College, Palatka, Florida

The stated purpose was: "If student rating of faculty. . .were done by only the honor students, would the results correlate significantly with . . .rating(s) done by (the) total student body?"

Prompted by increased enrollments and to reduce the gross number of students making the ratings, the College undertook a rather sophisticated and perceptive attack on the problem. Several additional purposes were established, such as whether high grades to students evoke high ratings of the teacher, a comparison of teacher ratings by instructional divisions, actual modifications of instructional behavior, and a distillation of the particular factors which students value, and do not value, in the instructional behavior.

The worth of the initial question in fact is matched by some of the by-products of this study. The study includes recommendations for translating the results into policy and operation at the College.

Directed by C. L. Overturf, Jr., and Edwin C. Price, Dean.

Jefferson State Junior College, Birmingham, Alabama

An informal, though structured, evaluation of the orientation of a new faculty (drawn bi-modally from four-year colleges and high schools) to junior college instructional procedures. The College used a variety of approaches to the problem, including a graduate course in junior college education (which included research projects by individual instructors taking the course, subsequently filed with the Dean), classroom and laboratory supervisory visits by the Dean, and structured discussion groups.

The total effort was objectively examined and the results indicated that "the program of retraining and orientation for the faculty members has been quite successful."

Directed by James L. Moncrief, Dean of the College, and Lester M. Sims, Business Manager.

CURRICULUM

Sacred Heart College, Cullman, Alabama

The purpose of this study was "to determine whether there is any positive correlation between a student's exposure to a special course in English usage and her performance in a regular English composition class."

Two sections of matched students were used in a control group-experiment group design, but an inadvertent human error (not in the design) made the results inconclusive. Indications are, however, that there was no special effect of the special course as compared with the regular course. From its experience the college is convinced of the value of the research and is planning its continuation.

Directed by Sister Mary Lourdes, and Sister Mary Ruth.

Pensacola Junior College, Pensacola, Florida

To determine whether "English instruction can be as effective in large groups as it has been in the smaller traditional size class," Pensacola had one person teach one section of 252 students and two sections of 15 students.

The experiment provided an opportunity for a tentative conclusion, namely no significant difference attributable to size. Of equal significance, however, is the fact that the College perceives modifications necessary in the design of the experiment, and therefore they intend to undertake further study of the basic question.

Directed by William Moore.

STUDENT PERSONNEL

Daytona Beach Junior College, Daytona Beach, Florida

The Guided Studies Project, designed to salvage the early college drop-out was evaluated. Concentrating on the lower one-third of entering freshmen, this structured study utilized two criteria for measuring the program's value, namely in terms of the students' vocational choice, and in terms of academic success in their vocational choice.

Although need for further evaluation of the program is recognized, "the attrition rate for Guided Studies students" was found "generally lower than might be expected."

Directed by Robert W. Whetstone, Dean of the College Division, and George W. Barton.

North Florida Junior College, Madison, Florida

This study was "an attempt to identify independent variables that might act as predictors for first term academic successes or failures. It concerned particularly the Florida State-Wide Twelfth Grade Testing Program as a predictor. The outcome of this well designed approach indicates the need to examine additional measures such as high school achievement, STEP and SCAT scores.

Directed by Robert E. Burns, Dean of Student Affairs and James C. Moore, Jr.

South Georgia College, Douglas, Georgia

South Georgia College, like many others, has a summer on-trial program. The purpose of this study was "to determine if there are significant non-intellective differences between students who succeed in being admitted in the Fall and persist successfully through the freshman year, and those admitted in the Fall from the on-trial program but who do not persist through the freshman year. The instrument used to facilitate this determination was Borrow's College Inventory of Academic Adjustment.

Statistically significant differences emerged, indicating some rather sophisticated and potentially important observations in the area of relevant non intellective differences; these characteristics are perceptible very early in the students' college careers, sufficiently early to reduce the rate of attrition among those students (who have succeeded in the summer on-trial program).

Directed by Charles J. Gelso, Director of Testing and Counseling.

Hinds Junior College, Raymond, Mississippi

This study was designed to determine an optimum time for advising incoming students on their academic programs, i.e. at Fall registration or earlier during the summer. Two random samples were compared, one group having received program advising in early summer, the other at Fall registration. Comparisons were made at the end of the first semester and revolved around changes made in their courses (i.e. changes in their academic programs).

The outcome was a fairly clear indication that "it is much more economical in time, as well as financially, to program-advise the students during the registration period". The College plans, however, to repeat the study with some modifications for improvement.

Directed by Floyd S. Elkins, Academic Dean.

Gardner-Webb College, Boiling Springs, N. C.

The College opens a new student center in the Fall of 1966. To establish a suitable program of student center services a questionnaire was constructed, covering five areas of concern, namely food services, postal services, bookstore, recreation, and day student services. These were interesting and pertinent findings, especially when commuting students' questionnaires were compared with those from resident students, the similarities outweighing the differences.

"Based upon this survey, a program is being planned which. . .(it) is hoped. . .will more nearly meet the students' needs because they helped us see what they are through their response to this survey."

Directed by R. W. Abrams, Director of Admissions.

PUBLIC RELATIONS

Gulf Coast Junior College, Panama City, Florida

In the belief that "the institutional image can be improved and the educational purposes. . .enhanced by placing the entire faculty and staff on 12-month contracts," an extensive study was made of salary structures, cost factors, and professorial rank.

No major institutional changes have been made yet partly because the College is moving from a trimester year to a quarter system. Approval has been received, however, for a $300 salary increase at the beginning level.

Directed by Richard Morley, President, and Charles R. Bond, Administrative Assistant.

Southern Union State Junior College, Wadley, Alabama

After setting off to explore methods of building and maintaining a strong alumni association, the progress report from Southern Union outlines the procedures adopted and as the outcome of a year's deliberate efforts it recognizes that "the alumni association. . .will never have the support and active participation in comparison to the four-year institution." It concludes, however, that "the association has a definite place in the junior college and can make an important contribution."

Directed by John R. Carmichael, Dean of Faculty.

Walker College, Jasper, Alabama

Walker College reports on planned modification of its public relations program, designed "to encourage financial contributions and requests with which to undergird future growth and development." One very material evidence

of success is four wills naming the college as benefactor to the extent of some half-million dollars.

The report lists a variety of events, activities and programs undertaken to increase public relations and to elicit financial contributions.

Directed by Jack Mott and Robert W. Moore.

RELATED RESEARCH ACTIVITIES COMPLETED

Instruction

Perkinston College, Perkinston, Mississippi. - The College reports progress on articulation within campus instruction, emphasizing the development of a district junior college philosophy. Directed by Robert L. Johnson, Director of Instruction and Supervision.

Student Personnel

Alice Lloyd College, Pippa Passes, Kentucky. - This College undertook a critique of its student orientation program and found evidence of its value to faculty as well as students. Their plan is to extend it to a year-long orientation program. Directed by William S. Hayes.

Public Relations

Gordon Military College, Barnesville, Georgia. - This study involved steps to develop a national image of Gordon Military College including a study of its publications, a consideration of producing a sound film (which was at least for the present rejected), and appointment of professional consultants. Directed by Woodrow Light, President, and W. B. Akins, Director of Development.

Campus Development

Westark Junior College, Smith, Arkansas. - Westark completed a three step, 15 year master campus plan, with the assistance of a professional planning firm. Directed by E. T. Vines, President.

Columbus College, Columbus, Georgia. - To collect data for a long range master plan, Columbus College delineated the many research assignments and

delegated them to specific committees, to individuals (by position), and to combinations of committees and individuals. Directed by Lindsey Mock, Director of Guidance.

Brevard Junior College, Cocoa, Florida. - To assist in planning a student center for its day and evening students, Brevard utilized five methods in acquiring the necessary data and in planning the center: (1) a questionnaire on students' eating habits, (2) observation, tally and questionnaire to determine peak periods of food service, (3) review of the available literature concerning student centers, (4) visiting student centers on other Florida campuses, (5) consulting with planners and the architects in developing educational specifications. Directed by Oliver R. Finch.

Data Processing

Wingate College, Wingate, N. C. - Wingate reports on the installation of data processing. Their report includes some of the lessons learned from this initial experience and a clear graphically presented procedure for use of E.D.P. in pre-registration. Directed by H. Boyd Israel, Academic Dean.

South Georgia College, Douglas, Georgia. - This college reports on its successful initial use of electronic data processing equipment, "successful at a much earlier date than anticipated." Directed by Robert R. Johnson.

St. Petersburg Junior College, St. Petersburg, Florida. - The college and the Board of Public Instruction amalgamated their data processing equipment at a single location. In addition the college designed a curriculum in E.D.P. to begin in September 1966. Also, plans are materially progressing

for the construction of an E.D.P. building. Directed by M. M. Bennett, Pres'dent.

Manatee Junior College, Bradenton, Florida. - The problem of space utilization was for the first time analyzed by data processing. The report includes a list of the outcomes such as more use recommended for certain hours of the day. Directed by Earl R. Stivers, Director of Institutional Research.